



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

178. Proposed by J. EDWARD SANDERS, Reinersville, Ohio.

Two random planes cut a given sphere. What is the chance that they intersect within the sphere?

No solution has been received.

179. Proposed by HENRY HEATON, Belfield, N. D.

Through every point of the circumference of a given circle, chords are drawn in every possible direction. What is their average length?

Solution by G. B. M. ZERR, A. M., Ph. D., Parsons, W. Va., and LEROY D. WELD, Coe College, Cedar Rapids, Ia.

If the chord varies as the abscissa we get, since $x^2 + y^2 = 2ax$ is the equation to the circle,

$$M = \frac{\int_0^{2a} \sqrt{(2ax)} dx}{\int_0^{2a} dx} = \frac{4}{3}a.$$

If the chord varies as the angle it makes with the diameter through its extremity, then, since $r=2a \cos\theta$ is the equation to the circle, we get

$$M = \frac{\int_0^{\frac{1}{4}\pi} 2a \cos\theta d\theta}{\int_0^{\frac{\pi}{4}} d\theta} = \frac{4a}{\pi}.$$

MISCELLANEOUS.

161 (Incorrectly numbered 157). Proposed by H. L. ORCHARD, M. A., B. Sc. (Unsolved problem in the Educational Times, London.)

An inelastic rod 9 feet long is placed with its upper end upon a rough vertical plane and its lower end on a smooth horizontal plane, and so that it makes an angle of 45° with each plane. It is now released, and strikes against a smooth sphere of 1 foot diameter placed in contact with the two planes. Determine the subsequent motion.

No solution has been received.

163. Proposed by J. EDWARD SANDERS, Reinersville, Ohio.

Two straight streams of different volumes and velocities come together. Find the path of a body floating in mid-current of either.

No solution has been received.